U.S. PATENT APPLICATION

Inventor(s):   Youzou MATSUDA
Shirayuki ARAKI

Invention: PORTABLE ELECTRONIC APPARATUS HAVING A TELEPHONING FUNCTION

SPECIFICATION

PORTABLE ELECTRONIC APPARATUS

HAVING A TELEPHONING FUNCTION

BACKGROUND OF THE INVENTION

5   Field of the Invention

The present invention relates to a portable electronic apparatus having a telephoning function.

Description of the Prior Art

10   Conventionally, a portable electronic apparatus having a telephoning function is often equipped, for example, for a communications service such as electronic mail (hereafter also e-mail, or simply mail)

To use e-mail, which is one of functions for which such a portable electronic apparatus having a telephoning function is typically equipped, it is

15   necessary to previously set a telephone number to a networking service provider, templates of text, and other data. Typical settings for such data are usually factory-programmed in such a way that they can be altered as desired when the user starts using a networking service.

However, typical settings for e-mail often vary from one country or area to

20   another, and templates of text need to be prepared in different languages for different countries or areas. Conventionally, to cope with such variations from one country or area to another, different units are manufactured for use in different countries or areas. Note that, here, a "language" denotes the language used for

daily social communication among the people of a particular country or area.

Japanese Laid-Open Patent Application No. H5-219280 proposes a technique of automatically setting country/area data by checking the voltage or circuit of commercial AC power instead of demanding the user to set country/area data to
5   determine initial data. However, this method is not practicable in, for example, a battery-operated apparatus that does not use commercial AC power, and does not allow discrimination between areas that cannot be distinguished on the above-mentioned basis.

10   SUMMARY OF THE INVENTION

An object of the present invention is to provide a telephoning-function-incorporating portable electronic apparatus that allows discrimination among more areas than can be distinguished on the basis of commercial AC power and that allows initialization of software-related settings as well as of display-related
15   settings.

Another object of the present invention is to provide a telephoning-function-incorporating portable electronic apparatus in which the settings edited through such initialization by the user are kept unerased even when the power to the apparatus is turned off.

20   To achieve the above objects, according to one aspect of the present invention, a portable electronic apparatus incorporating software and having a telephoning function is provided with: a first memory for storing a plurality of sets of initial data for the software to cope with various kinds of area data and

languages; input means for allowing entry of the area data and the language of the area in which the portable electronic apparatus is used; and a second memory for storing the area data and the language entered through the input means. Here, when the software is initialized, the initial data corresponding to the area data and

5   the language stored in the second memory is selected from the initial data stored in the first memory.

According to this configuration, for example prior to shipment of the portable electronic apparatus, the area data and the language of the area to which it is going to be shipped is entered in it through the input means, so that the area

10 data and the language are stored in the second memory. In accordance with the area data and the language thus entered, the corresponding initial data for the software is read out from the first memory, and the software is initialized by the use of this initial data.

According to another aspect of the invention, the portable electronic

15 apparatus incorporating software and having a telephoning function may be further provided with: editing means for allowing the selected initial data to be edited by the user; and storing means for storing the initial data edited by the user in the second memory.

According to this configuration, for example when the user starts using the

20 portable electronic apparatus, and the user wishes to alter the initial data that is already entered in it prior to shipment as described above, the user can edit the initial data. Moreover, the initial data as edited by the user is stored in the second memory, and therefore, as long as the second memory is a non-volatile memory

such as a flash ROM, the edited initial data is kept unerased even when the power to the apparatus is turned off.

According to another aspect of the present invention, the portable electronic apparatus incorporating software and having a telephoning function may be further

5　provided with:　a key that is operated to delete the initial data edited by the user.

According to this configuration, simply by pressing the key to be pressed to delete the initial data edited by the user, it is possible to delete the initial data edited by the user.

According to another aspect of the present invention, the portable electronic

10　apparatus incorporating software and having a telephoning function may be so designed that, when the key that is operated to delete the initial data edited by the user is operated, the initial data edited by the user is deleted and the software of the portable electronic apparatus having the telephoning function is initialized by the use of the initial data corresponding to the area data and the language as

15　initially set.

According to this configuration, simply by pressing the key to be pressed to delete the initial data edited by the user, it is possible to delete the initial data edited by the user and initialize the software by the use of the initial data as set prior to shipment.

20　According to another aspect of the present invention, the portable electronic apparatus incorporating software and having a telephoning function may be so designed that, when the software of the portable electronic apparatus having the telephoning function is initialized by the use of the initial data corresponding to

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the area data and the language as edited by the user, the initial data is checked so that. if incorrect data is found therein. the initial data edited by the user is automatically deleted and the software of the portable electronic apparatus having the telephoning function is initialized by the use of the initial data corresponding

5   to the area data and the language as initially set.

According to this configuration, for example when the initial data edited by the user has not been stored properly in the second memory because of an accident such as a drop in the supplied voltage, incorrect data is automatically detected. Then. to prevent malfunctioning of the portable electronic apparatus having the.

10   telephoning function, the initial data edited by the user is automatically deleted, and the software is initialized by the use of the initial data as set prior to shipment.

BRIEF DESCRIPTION OF TIIE DRAWINGS

This and other objects and features of the present invention will become

15   clear from the following description, taken in conjunction with the preferred embodiments with reference to the accompanying drawings in which:

Fig. 1 is a diagram showing the appearance of a portable electronic apparatus having a telephoning function employed in all embodiments of the invention;

20   Fig. 2 is a block diagram showing the configuration of the portable electronic apparatus having a telephoning function shown in Fig. 1;

Fig. 3 is a diagram showing the details of the configuration of the ROM and the flash ROM shown in Fig. 1;

Fig. 4 is a flow chart of the software initialization procedure performed in a first embodiment of the invention;

Fig. 5 is a flow chart of the software initialization procedure performed in a second or a fourth embodiment of the invention;

5   Fig. 6 is a flow chart of the procedure performed to delete the user-edited initial data in a third or the fourth embodiment of the invention;

Fig. 7 is a flow chart of the initialization procedure, including steps for detecting incorrect data, performed in a fifth embodiment of the invention;

Fig. 8 is a diagram showing a first example of the operation screen (in English) for area setting, language setting, and user editing, common to all of the embodiments of the invention;

Fig. 9 is a diagram showing a first example of the operation screen (in English) for area setting, common to all of the embodiments of the invention;

Fig. 10 is a diagram showing a first example of the operation screen (in English) for language setting, common to all of the embodiments of the invention;

Fig. 11 is a diagram showing a first example of the operation screen (in English) for local Internet provider setting as automatically selected according to the area set, common to all of the embodiments of the invention;

Fig. 12 is a diagram showing a second example of the operation screen (in French) for area setting, language setting, and user editing, common to all of the embodiments of the invention;

Fig. 13 is a diagram showing a second example of the operation screen (in French) for local Internet provider setting as automatically selected according to

the area set, common to all of the embodiments of the invention;

Fig. 14 is a diagram showing a first example of the item selection screen (in French) for user editing, adopted in the second and fifth embodiment;

Fig. 15 is a diagram showing a first example of the principal language selection screen (in French) for user editing, adopted in the second and fifth embodiment;

Fig. 16 is a diagram showing a first example of the additional language selection screen (in French) for user editing, adopted in the second and fifth embodiment;

Fig. 17 is a diagram showing a first example of the world city selection screen (in French) for user editing, adopted in the second and fifth embodiment;

Fig. 18 is a diagram showing a first example of the world clock screen (in English) selected according to the area setting, language setting, and user editing actually made, common to all of the embodiments of the invention;

Fig. 19 is a diagram showing a second example of the world clock screen (in French) selected according to the area setting, language setting, and user editing actually made, common to all of the embodiments of the invention;

Fig. 20 is a diagram showing a third example of the world clock screen (in French) selected according to the area setting, language setting, and user editing actually made, common to all of the embodiments of the invention;

Fig. 21 is a diagram showing a first example of the outgoing mail creation screen (in English) selected according to the area setting, language setting, and user editing actually made, common to all of the embodiments of the invention;

Fig. 22 is a diagram showing a first example of the data-entry software key selection screen (in English) selected according to the area setting, language setting, and user editing actually made, common to all of the embodiments of the invention;

5   Fig. 23 is a diagram showing a second example of the outgoing mail creation screen (in French) selected according to the area setting, language setting, and user editing actually made, common to all of the embodiments of the invention;

Fig. 24 is a diagram showing a second example of the data-entry software key selection screen (in French) selected according to the area setting, language

10   setting, and user editing actually made, common to all of the embodiments of the invention;

Fig. 25 is a diagram showing a third example of the outgoing mail creation screen (in French) selected according to the area setting, language setting, and user editing actually made, common to all of the embodiments of the invention;

15   Fig. 26 is a diagram showing a third example of the data-entry software key selection screen (if Japanese-capable) selected according to the area setting, language setting, and user editing actually made, common to all of the embodiments of the invention;

Fig. 27 is a diagram showing a first example of the incoming mail display

20   screen (if not Japanese-capable) selected according to the area setting, language setting, and user editing actually made, common to all of the embodiments of the invention; and

Fig. 28 is a diagram showing a second example of the incoming mail display

screen (if Japanese-capable) selected according to the area setting, language setting, and user editing actually made, common to all of the embodiments of the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

<First Embodiment>

Hereinafter, a first embodiment of the present invention will be described with reference to Figs. 1, 2, 3, 4, 8, 9, 10, 11, 12, 13, 18, 19, 21, 22, 23, and 24. Fig. 1 is a diagram showing the appearance of a portable electronic apparatus having a telephoning function employed in all embodiments of the invention. As shown in Fig. 1, this portable electronic apparatus is provided with various keys 1 to be operated by the user, such as a multiple-function push switch 1a, a call key 1b, a power switch 1c, and a reset key 1d, a coordinate entry device 2 that includes an LCD (liquid crystal display) serving as a display device and that provides a pen-based user interface, an infrared communication device 3, a loudspeaker 4 serving as an earpiece, a microphone 5 serving as a mouthpiece, an antenna 6 extendible in the direction indicated by A, and a flap 7 that is fitted to the bottom of the body of the apparatus through a hinge so as to be rotatable in the direction indicated by B and thereby serve to protect the coordinate entry device 2.

Fig. 2 is a block diagram showing the configuration of the portable electronic apparatus shown in Fig. 1. As shown in Fig. 2, the portable electronic apparatus has a CPU 8 for controlling the entire system and providing various services to the user, a RAM 9 for storing data temporarily, a ROM 10 for storing

software and various kinds of data, a flash ROM 11 for storing various kinds of data such as the language and area data of the area for which the apparatus is adapted, a coordinate entry controller 12 that provides a pen-based user interface, a coordinate entry device 13 such as a pen with which to enter data into the

5 coordinate entry controller 12, various keys 14 including the keys 1a to 1d shown in Fig. 1 to be operated by the user, an LCD 16 serving as a display device, a display controller 15 for controlling the LCD 16, a telephone function device 18 that functions as a telephone, a telephone function controller 17 for controlling the telephone function device 18, an infrared communication device 20, and an

10 infrared communication controller 19 for controlling the infrared communication device 20.

Fig. 3 is a diagram showing the details of the configuration of the ROM 10 and the flash ROM 11 shown in Fig. 2. In the ROM 10 are stored software 10-1 that runs on the portable electronic apparatus, initial data 10-2 that is used to

15 initialize the software 10-1, and an initial data index 10-3 that is used to select from the initial data 10-2 the index to the initial data that is to be used to initialize the software 10-1 according to the area/language data stored in the flash ROM 11. In the flash ROM 11 are stored area/language data 11-1 that is used to initialize the software 10-1 of the portable electronic apparatus, an initial data edit flag that

20 indicates that the user has edited the initial data 11-1 for the initialization of the software 10-1, and edited initial data 11-3 that is the initial data as edited by the user for the initialization of the software 10-1.

In this portable electronic apparatus, various kinds of initial data

corresponding to different areas such as the individual states of the U.S.A.,
England, France, Germany, and Italy, is previously stored in the ROM 10. Out of
this initial data, the language and the area data corresponding to the area in which
the portable electronic apparatus is going to be used are received by the infrared
5   communication device 20 and the infrared communication controller 19, or
entered through an input means such as the coordinate input device 13 or the keys
14, and the received or entered data is stored among the area/language data 11-1
within the flash ROM 11.

In a case where initially the area is set for the U.S.A. and the language is set
10   for English, a screen is displayed as shown in Fig. 8, which shows a first example
of the operation screen (in English) for area setting, language setting, and user
editing, common to all of the embodiments of the invention. In the upper part of
this screen is displayed the currently set area and language data. When the item
"Country" is selected from this screen by the use of an input means such as the
15   coordinate entry device 13 or the keys 14, a screen for selecting area data is
displayed, with the currently set area data displayed in its upper part, as shown in
Fig. 9, which shows a first example of the operation screen (in English) for area
setting, common to all of the embodiments of the invention. Here, the area is set,
for example, for France by the use of an input means such as the coordinate entry
20   device 13 or the keys 14. Next, when the item "Language" is selected by the use
of an input means such as the coordinate entry device 13 or the keys 14, a screen
for selecting a language is displayed, with the currently set language displayed in
its upper part, as shown in Fig. 10, which shows a first example of the operation

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screen (in English) for language setting, common to all of the embodiments of the invention. In the example shown in Fig. 10, selection of a language is allowed from among the principal languages associated with the currently set area data; specifically, in this case, since the area is set for France, French is the only item

5   that can be selected.

In this portable electronic apparatus, when the reset key 1d is pressed, the entire system is initialized. Fig. 4 is a flow chart of the procedure, among other initialization procedures, performed to initialize the data of the software in accordance with the area data and the language set as described above.

10   In step S3-1, the area data and the language stored among the area and language data within the flash ROM 11 is read out. In step S3-2, the index to the initial data that corresponds to the language and the area data read out in step S3-1 and that is stored within the database stored in the ROM 10 and having a plurality of sets of initial data to cope with a plurality of languages and sets of area data is

15   acquired from the initial data index 10-3. In step S3-3, in accordance with the language and the area data read out in step S3-1, the software is initialized by the use of that part of the initial data 10-2 which is specified by the index acquired in step S3-2.

As an example of the first embodiment, in a case where the area is set for

20   France and the language is set for French through area and language setting operations as described above, the messages displayed by the software running on the portable electronic apparatus are replaced with messages in French. For example, the first example of the operation screen (in English) for area setting,

language setting, and user editing shown in Fig. 8 is displayed in French, as shown in Fig. 12, which shows a second example of the operation screen (in French) for area setting, language setting, and user editing.

When the area data or the language is changed, not only the language in
5 which messages are displayed, but also the data specific to the area is changed. For example, in a case where initially the area is set for the U.S.A. and the language is set for English, in accordance with the currently set area, the typical Internet providers that can be selected for e-mail handling in that area is automatically selected, as shown in Fig. 11, which shows a first example of the
10 operation screen (in English) for local Internet provider setting. In a cases where the area is set for France and the language is set for French, a similar screen is displayed in French, as shown in Fig. 13, which shows a second example of the operation screen (in French) for local Internet provider setting as automatically selected according to the area set. Here, the Internet providers listed are also
15 changed to those that can be selected in that area.

In the world clock that runs on the portable electronic apparatus, in a case where initially the area is set for the U.S.A. and the language is set for English, the home city is initially set for London, as shown in Fig. 18, which shows a first example of the world clock screen (in English) selected according to the area
20 setting, language setting, and user editing actually made. In a case where the area is set for France and the language is set for French, the home city is set for Paris, as shown in Fig. 19, which shows a second example of the world clock screen (in French) selected according to the area setting, language setting, and user editing

actually made.

In the mail editing software program that runs on the portable electronic apparatus, in a case where initially the area is set for the U.S.A. and the language is set for English, an input environment, including software keys, is established in

5 English, as shown in Fig. 21, which shows a first example of the outgoing mail creation screen (in English) selected according to the area setting, language setting, and user editing actually made, and in Fig. 22, which shows a first example of the data-entry software key selection screen (in English) selected according to the area setting, language setting, and user editing actually made. In a case where the area

10 is set for France and the language is set for French, an input environment, including software keys, is established in French, as shown in Fig. 23, which shows a second example of the outgoing mail creation screen (in French) selected according to the area setting, language setting, and user editing actually made, and in Fig. 24, which shows a second example of the data-entry software key selection

15 screen (in French) selected according to the area setting, language setting, and user editing actually made.

<Second Embodiment>

Hereinafter, a second embodiment of the present invention will be described

20 with reference to Figs. 1, 2, 3, 5, 12, 14, 15, 16, 17, 20, 23, 24, 25, 26, 27, and 28. The portable electronic apparatus having a telephoning function employed in this embodiment has the same appearance as the one employed in the first embodiment shown in Fig. 1.

Fig. 2 is a block diagram showing the configuration of the portable electronic apparatus having a telephoning function shown in Fig. 1. As shown in Fig. 2, the portable electronic apparatus has a CPU 8 for controlling the entire system and providing various services to the user, a RAM 9 for storing data temporarily, a ROM 10 for storing software and various kinds of data, a flash ROM 11 for storing various kinds of data such as the language and area data of the area for which the apparatus is adapted, a coordinate entry controller 12 that provides a pen-based user interface, a coordinate entry device 13 such as a pen with which to enter data into the coordinate entry controller 12, various keys 14 including the keys 1a to 1d to be operated by the user, an LCD 16 serving as a display device, a display controller 15 for controlling the LCD 16, a telephone function device 18 that functions as a telephone, and a telephone function controller 17 for controlling the telephone function device 18.

Fig. 3 is a diagram showing the details of the configuration of the ROM 10 and the flash ROM 11 shown in Fig. 2. In the ROM 10 are stored software 10-1 that runs on the portable electronic apparatus, initial data 10-2 that is used to initialize the software 10-1, and an initial data index 10-3 that is used to select from the initial data 10-2 the index to the initial data that is to be used to initialize the software 10-1 according to the area/language data stored in the flash ROM 11. In the flash ROM 11 are stored area/language data 11-1 that is used to initialize the software 10-1 of the portable electronic apparatus, an initial data edit flag that indicates that the user has edited the initial data 11-1 for the initialization of the software 10-1, and edited initial data 11-3 that is the initial data as edited by the

user for the initialization of the software 10-1.

In the portable electronic apparatus that operates as described above in connection with the first embodiment, an editor function is additionally provided that allows the user to edit the initial data. The initial data as edited by the user

5   is stored in the flash ROM 11 mentioned above. When the edited initial data is stored, the initial data edit flag 11-2 mentioned above is stored as "set". When the initial data is not edited, the flag in the flash ROM 11 is stored as "cleared".

In this portable electronic apparatus, when the reset key 1d is pressed, the entire system is initialized. Fig. 5 is a flow chart of the procedure, among other

10   initialization procedures, performed to initialize the software by the use of the edited initial data 11-3, i.e. the initial data as edited by the user.

First, in step S4-1, whether the initial data has been edited by the user or not is checked by checking the initial data edit flag 11-2 in the flash ROM 11. If the initial data has been edited, then, in step S4-2, the software 10-1 is initialized by

15   using, as initial data, the initial data 11-3 edited by the user and stored in the flash ROM 11. If the initial data has not been edited, then in steps S4-3, S4-4, and S4-5, the data of the software is initialized by the same procedure as in the first embodiment.

As an example of the second embodiment, in a case where a Frenchman

20   living in France and using Japanese and English in business uses the portable electronic apparatus, it may be necessary, in addition to initializing the system for use in France, to allow the user to configure the system in such a way that not only French but also English and Japanese can be used within the system. In such a

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case, the item "Modification Personnelles" displayed in Fig. 12, which shows the second example of the operation screen (in French) for area setting, language setting, and user editing, is selected by the use of an input means such as the coordinate input device 13 or the keys 14. As a result, a screen for item selection

5   for user editing is displayed as shown in Fig. 14, which shows a first example of the item selection screen (in French) for user editing.

To change the principal language corresponding to the currently set area, i.e. the language in which the software running on the portable electronic apparatus displays various screens, the item "Langue Maternelle" shown in Fig. 14 is selected

10   by the use of an input means such as the coordinate entry device 13 or the keys 14. Then, a screen for selecting a principal language is displayed as shown in Fig. 15, which shows a first example of the principal language selection screen (in French) for user editing.

To set English and Japanese as additional languages, the item "Langue

15   Additionele" shown in Fig. 14 is selected by the use of an input means such as the coordinate entry device 13 or the keys 14. Then, a screen for selecting an additional language is displayed as shown in Fig. 16, which shows a first example of the additional language selection screen (in French) for user editing. In Fig. 16, English and Japanese are selected as additional languages by the use of an input

20   means such as the coordinate entry device 13 or the keys 14.

To change the world city of the world clock, the item "Ville Monde" shown in Fig. 14 is selected by the use of an input means such as the coordinate entry device 13 or the keys 14. Then, a screen for selecting a world city is displayed as

shown in Fig. 17, which shows a first example of the world city selection screen (in French) for user editing. In Fig. 14, Tokyo is selected by the use of an input means such as the coordinate entry device 13 or the keys 14. Thereafter, the world clock screen changes to a screen as shown in Fig. 20, which shows a third

5   example of the world clock screen (in French) selected according to the area setting, language setting, and user editing actually made, and, when the software is initialized next time, the world city is changed from New York to Tokyo.

An advantage of setting English and Japanese as additional languages through operations as described above is as follows. If no additional language is

10   set, when mail containing text in Japanese is received, the text in Japanese is not displayed properly in a screen as that shown in Fig. 27, which shows a first example of the incoming mail display screen (if not Japanese-capable) selected according to the area setting, language setting, and user editing actually made. In addition, it is impossible to create mail in Japanese because the software keys that

15   allow entry of Japanese text are not supported in screens as those shown in Fig. 23, which shows the second example of the outgoing mail creation screen (in French) selected according to the area setting, language setting, and user editing actually made, and in Fig. 24, which shows the second example of the data-entry software key selection screen (in French) selected according to the area setting, language

20   setting, and user editing actually made.

By contrast, when additional languages are set as described above, received mail containing text in Japanese is displayed properly as shown in Fig. 28, which shows a second example of the incoming mail display screen (if Japanese-capable)

selected according to the area setting, language setting, and user editing actually made. In addition, it is possible to create mail in Japanese because the software keys that allow entry of Japanese text are supported in screens as shown in Fig. 25, which shows a third example of the outgoing mail creation screen (if Japanese-

5 capable) selected according to the area setting, language setting, and user editing actually made, and in Fig. 26, which shows a third example of the data-entry software key selection screen (if Japanese-capable) selected according to the area setting, language setting, and user editing actually made.

10 <Third Embodiment>

Hereinafter, a third embodiment of the present invention will be described with reference to Figs. 1, 2, 3, and 6. The portable electronic apparatus having a telephoning function employed in this embodiment has the same appearance and the same block configuration as the one employed in the second embodiment

15 shown in Figs. 1, 2, and 3. Note however that the keys 14 include a delete key 1e shown in Fig. 1 that is operated to delete the initial data edited by the user.

In the portable electronic apparatus that operates as described above in connection with the second embodiment, it is possible to delete the initial data stored in the flash ROM 11 by pressing the delete key 1e. Fig. 6 shows a flow

20 chart of the procedure performed to achieve this.

First, when the delete key 1e is pressed, then, in step S5-1, the initial data edit flag 11-2 in the flash ROM 11 is stored as "cleared". The initial data edit flag 11-2, when cleared, indicates that the initial data is not edited. Then, in step S5-2,

the edited initial data 11-3 as edited by the user and stored in the flash ROM 11 is deleted.

<Fourth Embodiment>

5   Hereinafter, a fourth embodiment of the present invention will be described with reference to Figs. 1, 2, 3, 5, 6, 19, 20, 23, 24, 25, 26, 27, and 28.   The portable electronic apparatus having a telephoning function employed in this embodiment has the same appearance and the same block configuration as the one employed in the third embodiment shown in Figs. 1, 2, and 3.

10   In the portable electronic apparatus that operates as described above in connection with the third embodiment, when the delete key 1e for deleting the edited initial data 11-3 edited by the user is pressed, according to the procedure shown in the flow chart of Fig. 6, the initial data edit flag 11-2 in the flash ROM 11 is stored as "cleared", then the edited initial data 11-3 as edited by the user and
15   stored in the flash ROM 11 is deleted, and then the entire system is initialized by the use of the initial data as it originally was before user editing according to the procedure shown in the flow chart of Fig. 5.

As a practical example, consider a case where, as with the second embodiment, the area is set for France, the language is set for French, and English and
20   Japanese are set as additional languages by the user, and Tokyo is set as the world city of the world clock.   When the delete key 1e is pressed to reset the system and initialize the software, the world clock screen changes from that shown in Fig. 20, which shows the third example of the world clock screen (in French) as

selected in the previously described embodiments, to that shown in Fig. 19, which shows the second example of the world clock screen (in French) as selected in the previously described embodiments. In addition, received mail containing text in Japanese, which has been displayed properly as shown in Fig. 28, which shows the

5   second example of the incoming mail display screen (if Japanese-capable) as selected in the previously described embodiments, is no longer displayed properly as shown in Fig. 27, which shows the first example of the incoming mail display screen (if not Japanese-capable) as selected in the previously described embodiments. Thus, the portable electronic apparatus, when reset, cannot handle

10   Japanese, which is set as an additional language by the user.

Moreover, the screens related to the creation of mail in Japanese change from those shown in Fig. 25, which shows the third example of the outgoing mail creation screen (if Japanese-capable) as selected in the previously described embodiments and in Fig. 26, which shows the third example of the data-entry

15   software key selection screen (if Japanese-capable) as selected in the previously described embodiments, where the software keys that allow entry of Japanese text are supported, to those shown in Fig. 23, which shows the second example of the outgoing mail creation screen (in French) as selected in the previously described embodiments and in Fig. 24, which shows the second example of the data-entry

20   software key selection screen (in French) as selected in the previously described embodiments, where the software keys that allow entry of Japanese text are not supported. Thus, it is no longer possible to create mail in Japanese.

<Fifth Embodiment>

Hereinafter, a fifth embodiment of the present invention will be described with reference to Figs. 1, 2, 3, 4, and 7. The portable electronic apparatus having a telephoning function employed in this embodiment has the same appearance and

5   the same block configuration as the one employed in the fourth embodiment shown in Figs. 1, 2, and 3.

In the portable electronic apparatus that operates as described above in connection with the fourth embodiment, if the initial data has been edited by the user and is stored as the edited initial data 11-3 in the flash ROM, and the initial

10   data edit flag 11-2 is stored as "set", when the reset key 1d is pressed, according to the procedure shown in the flow chart of Fig. 7, the entire system is initialized. In Fig. 7, steps S6-2 and S6-4 to S6-9 constitute a flow chart of the procedure for software data initialization, adapted for a case where the initial data as edited by the user is checked for incorrect data.

15   First, in steps S6-1 and S6-2, the edited initial data 11-3 is checked to see whether there is incorrect data therein or not. If no incorrect data is found, then, in step S6-3, initialization is performed according to the flow chart for software initialization shown in Fig. 5 used in either of the second and fourth embodiments. If incorrect data is found, then, in step S6-4, the user is notified that the edited

20   initial data includes incorrect data and is therefore going to be deleted. Then, after confirmation by the user, in step S6-5, the initial data edit flag 11-2 is cleared, and then, in step S6-6, the edited initial data 11-3 is deleted. Thereafter, in steps S6-7, S6-8, and S6-9, initialization is performed by the use of the initial data as it

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originally was before editing according to the same flow as described in connection

with the first embodiment with reference to Fig. 4.